# NOTES ON *DEUDORIX* HEWITSON IN THE SOLOMON ISLANDS, THE BISMARCK ARCHIPELAGO AND NEW GUINEA, WITH DESCRIPTIONS OF NINE NEW TAXA (LEPIDOPTERA: LYCAENIDAE)

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## Abstract

Nine new species of *Deudorix* Hewitson are described from the Solomon Islands, the Bismarck Archipelago and the island of New Guinea: *D. confusa* sp. nov. (Choiseul and New Ireland); *D. emira* sp. nov. (Bismarck Archipelago); *D. brilligi* sp. nov. (Choiseul); *D. tenebrosa* sp. nov. (Papua New Guinea); *D. parsonsi* sp. nov. (Irian Jaya and Papua New Guinea); *D. mulleri* sp. nov. (New Ireland); *D. rathsi* sp. nov. (Papua New Guinea); *D. eagon* sp. nov. (Choiseul); *D. wabens* sp. nov. (Guadalcanal). Diversity of *Deudorix* in the Solomon Islands is considered and the female of *D. viridens* Druce is newly recorded. 'Blue' species previously placed in *Virachola* Moore are placed with *Deudorix* and the status of *D. affinis* Rothschild, stat. rev. from Papua New Guinea is discussed. It is suggested that evidence to support historical association of a male from Sudest I. with the female holotype of *D. affinis* from Dampier I. is inconclusive.

## Introduction

*Deudorix* Hewitson, a genus of some 60 described species (including those previously placed in *Virachola* Moore), occurs from the Afrotropics, through the Indo-Australian region, to the islands of the western Pacific, including the Solomon Islands, Vanuatu and Samoa. The type species of *Deudorix* is the widespread *D. epijarbas* (Moore), which occurs throughout the Indo-Australian Region, from Sri Lanka and India eastwards through southeast Asia to the Moluccas, northern Australia and the Bismarck Archipelago. It reaches the Solomons Archipelago on Bougainville (Parsons 1998). In his monograph of New Guinea butterflies, Parsons (1998) divided New Guinea *Deudorix* into two groups and reported seven species of the *epijarbas* species-group from Papua New Guinea. Three of these, referred to as '*Deudorix* species a, b and c', represented undescribed taxa and detailed descriptions provided by Parsons included line drawings of the male genitalia and colour illustrations of adults. In order to allow comparisons with further new, closely related, butterflies from the Solomon Islands, it has been necessary to provide these taxa with names.

Treatment of the closely allied genus *Virachola* has varied between authors. In his work on the African lycaenid genera, Stempffer (1967) acknowledged the close similarity between *Deudorix* and *Virachola* and Eliot (in Corbet and Pendlebury 1992) suggested the latter was 'doubtfully separable from *Deudorix*'. The two have been treated as synonymous (e.g. Bridges 1988) and recently Ackery *et al.* (1995) placed *Virachola* as a subgenus of *Deudorix*. Although Parsons (1998) retained both names, he acknowledged

that they were probably synonymous. It is clear from their morphology, structure and early stages that they are very closely allied and *Virachola* is treated here as a synonym of *Deudorix* at the generic level.

Most *epijarbas* species-group taxa are similar in appearance. On the upper surface males are brown with red or orange markings and females are generally plain brown or grey-brown. Both sexes are sombre grey or brown on the under surface, with an arrangement of fine, pale coloured lines. Differences between species are minor and often subtle, but usually constant (but see discussion of *D. viridens* Druce) and are usually associated with underside wing markings and morphology of the male genital armature. Males of Indo-Australian *Deudorix* species previously referred to *Virachola* are structurally similar in all respects to *Deudorix* but have the orange/red upperside coloration replaced by blue.

This is one of a series of papers (Tennent 1997a, b; 1998a, c; 1999a-e; in press a-e; Tennent and Kitching 1998) dealing primarily with the Solomon Islands butterfly fauna and is part of a broader study (Tennent 1998b). The primary aim of the present paper is to make names available for a forthcoming book on the butterflies of the Solomon Islands in which all Solomon Islands taxa, including those illustrated here in monochrome, will be illustrated in colour.

## Systematics

### *Deudorix woodfordi* Druce, 1891

(Figs 1, 2, 16, 17, 31)

*Description.* Markings typical of the *epijarbas* species-group. Frons white; abdomen striped ventrally; male upperside with forewing orange-red patch large, distally more or less 'rounded' in shape, hindwing mainly orange-red, basal areas black; underside brown, forewing with postmedian band extending almost to inner margin (to veins 2 or 1), hindwing with black tornal spot large, round. Genitalia (fig. 31) typical of *Deudorix*; median section of valve sharply angular; apices finger-like, squat. Female upperside dark grey-brown, unmarked; underside as in male.

*Distribution.* Papua New Guinea (including the Bismarck Archipelago) and the Solomon Islands.

### *Deudorix viridens* Druce, 1891

(Figs 3, 4, 18, 19, 32)

*Description.* Frons white; abdomen unstriped ventrally; male upperside superficially similar to *D. woodfordi*, orange markings less extensive; underside distinctive in colour and markings, ground colour pale grey-brown, white lines bold, prominent, forewing postmedian band shorter than in *D. woodfordi*, extending from costa to vein 3 (extending to veins 2 or 1 in *D. woodfordi*), space between discal pair of white lines filled chocolate-brown, forming prominent 'square' spot; underside hindwing with tornal and

subtornal markings unlike any other known *Deudorix* species of the region, black spot in space 3 irregular in shape (loosely 'square'), large; distinctive iridescent silvery-green tornal markings. Genitalia (fig. 32) typical of the group; median section of valve distinctly angular. Female upperside atypical of the group, extensively pale blue or lilac blue (variable) (plain brown or grey-brown in all other '*epijarbas*' group species of the region); underside similar to male, paler grey.

*Distribution.* Solomon Islands (Choiseul and Guadalcanal). Newly recorded from Choiseul.

### *Deudorix confusa* sp. nov.

(Figs 6, 7, 21, 22, 33)

*Types. Holotype* ♂, SOLOMON ISLANDS, Choiseul, northwest, 3-7 km north of Mole, 40-120 m, 17.iv.1997, W.J. Tennent (gen. prep. BMNH (V) 5123) (BMNH). *Paratypes*: 6 ♂♂, 4 ♀♀, same data as holotype (♂ gen. preps BMNH (V) 5124, 5125, 5126, 5127, 5128, 5129); 3 ♂♂, Choiseul, 19 km (by road) north of Mole, 14.iv.1997, W.J. Tennent (gen. preps BMNH (V) 5130, 5131, 5132); 4 ♂♂, 3 ♀♀, Choiseul, 3-6 km north of Mole, 40-120 m, 16.iv.1997, W.J. Tennent (♂ gen. preps BMNH (V) 5133, 5134, 5135, 5136). PAPUA NEW GUINEA, 3 ♂♂, [Bismarck Archipelago, New Ireland], Herbertshohe, 31.v.[18]94, Dr J. Hagen (including gen. prep. BMNH (V) 1015); 1 ♂, 'New Ireland' (all BMNH).

*Description.* Resembles *D. woodfordi*, with which it has previously been confused, and *D. epijarbas*. Male forewing length (holotype) 18 mm; upperside red slightly darker than in *D. woodfordi*, less orange than in *D. epijarbas*; underside dark grey-brown (brown in *D. woodfordi*), markings prominent (subdued in *D. epijarbas*), median bands wide, with inner line close to pair of discal marks (median bands narrow, inner line distant from discal marks in *D. woodfordi* and *D. epijarbas*); underside hindwing with pair of parallel white lines in space 7 offset basad (less so in *D. epijarbas* and significantly less so in *D. woodfordi*), orange bordering subtornal spot more extensive than in *D. woodfordi*, often completely enclosing black spot, iridescent tornal markings reduced, blue (silvery-green in *D. woodfordi*). Genitalia (fig. 33) similar to *D. littoralis* Joicey & Talbot; median section of valve rounded (sharply angular in *D. woodfordi* and *D. epijarbas*), apices long and tapering ('squat' in *D. littoralis* and *D. woodfordi* – cf. figs 31c, 33c). Female similar to *D. epijarbas*; upperside hindwing often with traces of orange submarginal markings near tornus; underside similar to male.

*Distribution.* Papua New Guinea (New Ireland) and Solomon Islands (Choiseul).

*Comments.* In addition to material collected by the author on Choiseul in 1997, four males of this taxon were located in the BMNH collection in a mixed series over a drawer label '*neopommerana* Ribbe'. Takanami (1989) designated a lectotype for *D. neopommerana* and it is clear from his illustration of this specimen that it is very similar to *D. woodfordi*. D'Abrera


**Figs 1-15.** *Deudorix* spp., uppersides [HT = holotype; PT = paratype]. (1) *D. woodfordi* ♂ (Guadalcanal); (2) ditto ♀ (Choiseul); (3) *D. viridens* ♂ (HT, Guadalcanal); (4) ditto ♀ (Choiseul); (5) *D. brilligi* ♂ (HT, Choiseul); (6) *D. confusa* ♂ (HT, Choiseul); (7) ditto ♀ (PT); (8) *D. emira* ♂ (HT, Emirau); (9) ditto ♀ (PT); (10) *D. mulleri* ♂ (HT, New Ireland); (11) *D. parsonsi* ♂ (HT, Irian Jaya); (12) *D. tenebrosa* ♂ (HT, Upper Aroa R.); (13) *D. rathsi* ♂ (HT, Dampier I.); (14) *D. eagon* ♂ (HT, Choiseul); (15) *D. wabens* ♂ (HT, Guadalcanal). Scale = 1 cm.


**Figs 16-30.** *Deudorix* spp., undersides [HT = holotype; PT = paratype]. (16) *D. woodfordi* ♂ (Guadalcanal); (17) ditto ♀ (Choiseul); (18) *D. viridens* ♂ (HT, Guadalcanal); (19) ditto ♀ (Choiseul); (20) *D. brilligi* ♂ (HT, Choiseul); (21) *D. confusa* ♂ (HT, Choiseul); (22) ditto ♀ (PT); (23) *D. emira* ♂ (HT, Emirau); (24) ditto ♀ (PT); (25) *D. mulleri* ♂ (HT, New Ireland); (26) *D. parsonsi* ♂ (HT, Irian Jaya); (27) *D. tenebrosa* ♂ (HT, Upper Aroa R.); (28) *D. rathsi* ♂ (HT, Dampier I.); (29) *D. eagon* ♂ (HT, Choiseul); (30) *D. wabens* ♂ (HT, Guadalcanal). Scale = 1 cm.

(1990), who wrongly attributed authorship of the name *neopommerana* to Staudinger, suggested that it was synonymous with *D. woodfordi* and this was followed by Parsons (1998). A fresh female obtained recently by Chris Muller, from New Ireland, the type locality of *D. neopommerana*, is darker brown on the underside and has much finer markings than *D. woodfordi* females recently collected by the author on Guadalcanal, suggesting that *neopommerana* is at least a distinct subspecies of *D. woodfordi*. The four New Ireland males included here as paratypes of *D. confusa* have a more brown (*i.e.* less grey) underside than males from Choiseul and have tornal iridescent markings green, rather than blue. The male genitalia appear similar in all significant respects to Choiseul specimens and it is not known whether perceived morhological differences are due to the age of specimens or whether New Ireland populations represent a distinct subspecies. Constant differences in underside colour between *D. confusa* and *D. woodfordi* are based on a fresh series of both taxa taken in 1996/1997.

### *Deudorix emira* sp. nov.

(Figs 8, 9, 23, 24, 34)

*Types*. *Holotype* ♂, PAPUA NEW GUINEA, Squally Island, viii.1923, A.F. Eichhorn (gen. prep. BMNH (V) 5137) (BMNH). *Paratypes*: 15 ♂♂, 7 ♀♀, same data as holotype (including ♂ gen. preps BMNH (V) 1059, 5138) (all BMNH).

*Description*. Male forewing length (holotype) 17 mm; resembles *D. confusa* and *D. epijarbas* but smaller, the hindwing tail short (longer in *D. epijarbas* and *D. confusa*); male upperside distinctive, the red or orange-red colour of most *epijarbas* species-group taxa replaced by dull purplish-orange; underside less grey than in *D. confusa*, subtornal spot small, underside markings subdued (more prominent in *D. confusa*). Genitalia (fig. 34) typical of group; median section of valve similar to *D. viridens* (fig. 32) and *D. epijarbas*; valve apices similar to *D. confusa* (fig. 33). Female underside brown (grey brown in *D. confusa*), markings similar to *D. confusa*.

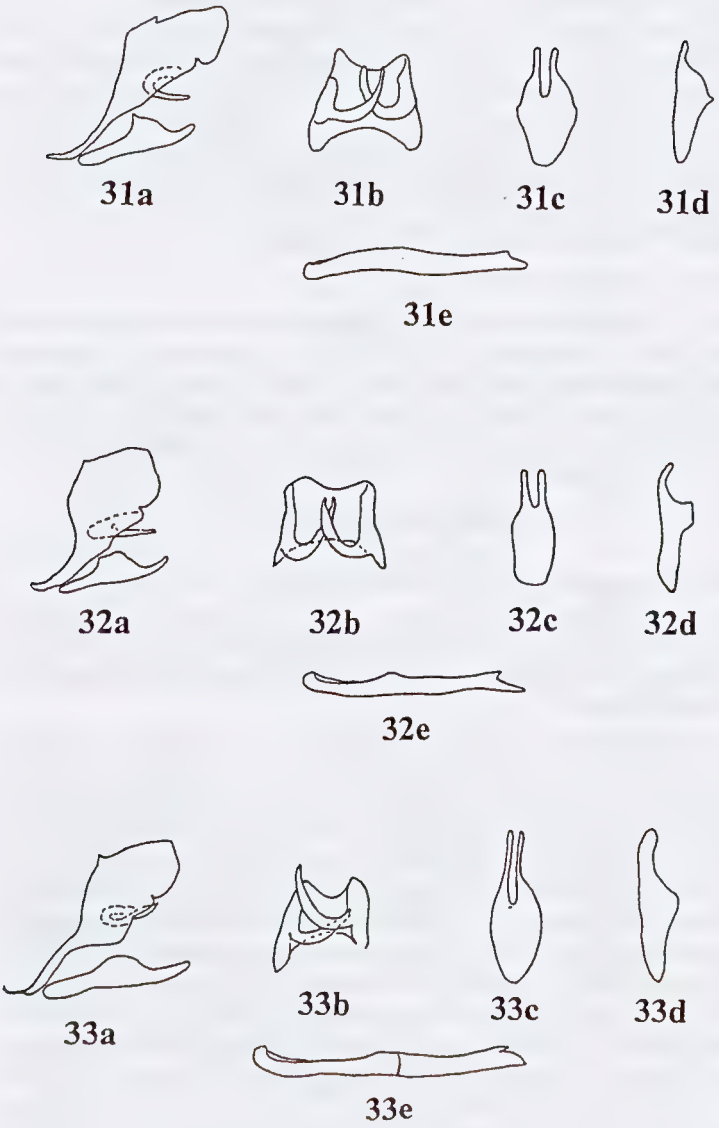
*Distribution*. Papua New Guinea (Bismarck Archipelago: Emirau).

*Comments*. Squally Island, now more usually referred to as Emirau or Emira, is part of the St. Matthias island group in the Bismarck Archipelago. Parsons (1998) reported *D. epijarbas* from Squally Island, based on this series in the BMNH. Although these specimens do bear a superficial resemblance to *D. epijarbas*, particularly the underside markings, the distinctive colour of the male upperside, combined with differences in genitalia (cf. Parsons 1998, plate XIV for *D. epijarbas*), suggest a separate species.

### *Deudorix brilligi* sp. nov.

(Figs 5, 20, 35)

*Type*. *Holotype* ♂, SOLOMON ISLANDS, Choiseul, northwest, 3-7 km north of Mole, 40-120 m, 17.iv.1997, W.J. Tennent (gen. prep. BMNH (V) 5140) (BMNH).




**Figs 31-33.** *Deudorix* male genitalia: a, genitalia, aedeagus removed (lateral view); b, uncus (posterior view); c, valvae (posterior view); d, right valva (lateral view); e, aedeagus (lateral view). (31) *D. woodfordi*; (32) *D. viridens*; (33) *D. confusa*.

*Description.* Male forewing length 17 mm; a distinctive species with superficial resemblance to *D. viridens*; upperside forewing with red patch broader, shorter (more squat), hindwing with red patch more extensive, reaching costa, leaving distinctly angular black basal patch; underside similar to *D. viridens*, forewing with post median lines fine, regular, reaching to vein 1 (more prominent, irregular, less extensive in *D. viridens*), hindwing with pair of parallel white lines in space 7 offset basad (part of curved median series in *D. viridens*), subtornal iridescent markings blue-green (silvery-green in *D. viridens*). Genitalia (fig. 35) similar to *D. woodfordi* (fig. 31); dorsal indentation of tegumen deep (shallow in *D. woodfordi*). Female unknown.

*Distribution.* Solomon Islands (Choiseul).

*Comments.* The female of this taxon is unknown and when material becomes available it will be interesting to see whether it is brown on the upperside, like most *epijarbas* species-group species in the region, or blue like the female of *D. viridens*. A female with underside markings similar to those of *D. viridens* and *D. brilligi*, but with an apparently brown upperside, was one of several *Deudorix* specimens seen on Choiseul, but not captured.

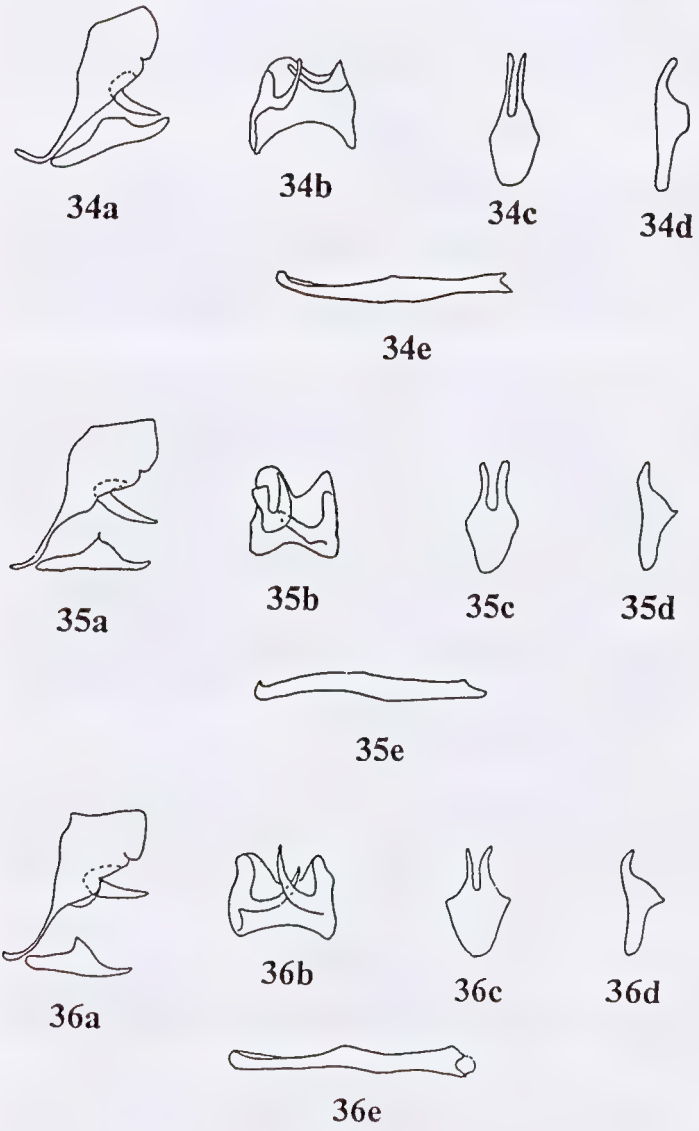
### *Deudorix tenebrosa* sp. nov.

(Figs 12, 27, 36)

*Deudorix* species a; Parsons, 1998: 405, pl. XIV, pl. 62, figs 1702-1705.

*Types. Holotype* ♂, PAPUA NEW GUINEA, Central Province, Upper Aroa River, i-iv.[19]03, A.S. Meek, (gen. prep. BMNH (V) 1024) (BMNH). *Paratype* ♀, Central District, Itikinumu Ridge, 600 m, 31.vii.1973, T. Fenner (PNG National Insect Collection, Port Moresby).

*Description.* Male forewing length 17 mm; antenna with white patch below club ventrally; frons orange; abdomen unstriped ventrally (Parsons 1998 – not available to present author; abdomen already removed for dissection); upperside with orange markings reduced in relation to other members of the *epijarbas* species-group, forewing with orange area reduced to a small dull patch in space 1b above inner margin, hindwing with orange area reduced to several elongated markings; underside brown, pale lines bold (prominent), forewing with postmedian band prominent, straight, reaching vein 1, 'outer' line of parallel pair of discal lines confluent with the 'inner' line of postmedian series nearest the costa (separated in all other *epijarbas* species-group taxa examined), hindwing with postmedian band irregular, with pair of white lines nearest the costa displaced basad, tornal lobe large, subtornal spot small, bordered orange basad, iridescent tornal markings blue-green, confined to broken, irregular subtornal line and some scales basad to subtornal spot. Genitalia (fig. 36) similar to *D. woodfordi* (fig. 31); dorsal indentation of tegumen less shallow; anterior/posterior slope on median section of valve unequal (more-or-less equal in *D. woodfordi*). Female upperside 'notably grey-brown' (Parsons 1998); underside as in male.




**Figs 34-36**. *Deudorix* male genitalia: a, genitalia, aedeagus removed (lateral view); b, uncus (posterior view); c, valvae (posterior view); d, right valva (lateral view); e, aedeagus (lateral view). (34) *D. emira*; (35) *D. brilligi*; (36) *D. tenebrosa*.

*Distribution.* Papua New Guinea.

*Comments.* The male holotype and female paratype of this taxon were illustrated by Parsons (1998). The latter has not been examined by the present author.

### *Deudorix parsonsi* sp. nov.

(Figs 11, 26, 37)

*Deudorix* species b; Parsons, 1998: 406, pl. XIV, pl. 62, figs 1706-1709.

*Types. Holotype* ♂, INDONESIA, western Irian Jaya, Kapaur [near Fak Fak (Parsons 1998)], Low c. [?], xii.[18]96-i.[18]97, Doherty (gen. prep. BMNH (V) 1023) (BMNH). *Paratype* ♂, PAPUA NEW GUINEA, Western province, Kiunga, Fly River, 2.vii.-31.x.1957, W.W. Brandt (Australian National Insect Collection, Canberra).

*Description.* Male forewing length 18 mm; typical of the *epijarbas* species-group; similar to *D. tenebrosa*; frons orange; abdomen unstriped ventrally (Parsons 1998 – not available to present author: abdomen already removed for dissection); upperside forewing with orange patch larger, paler (but still reduced in comparison to other *Deudorix* species), hindwing with orange area more extensive, dull; underside pale brown (pale grey-brown in *D. tenebrosa*; the greenish colour of Parsons 1998, plate 62, fig. 1709 is misleading), forewing with lines less bold, discal pair separate from postmedian series ('outer' line confluent with postmedian band in *D. tenebrosa* – cf. figs 26, 27), sub tornal spot thinly but completely circled orange. Genitalia (fig. 37) like *D. tenebrosa* (fig. 36); median section of valve angular; aedeagus shorter. Female unknown.

*Distribution.* Indonesia (Irian Jaya) and Papua New Guinea.

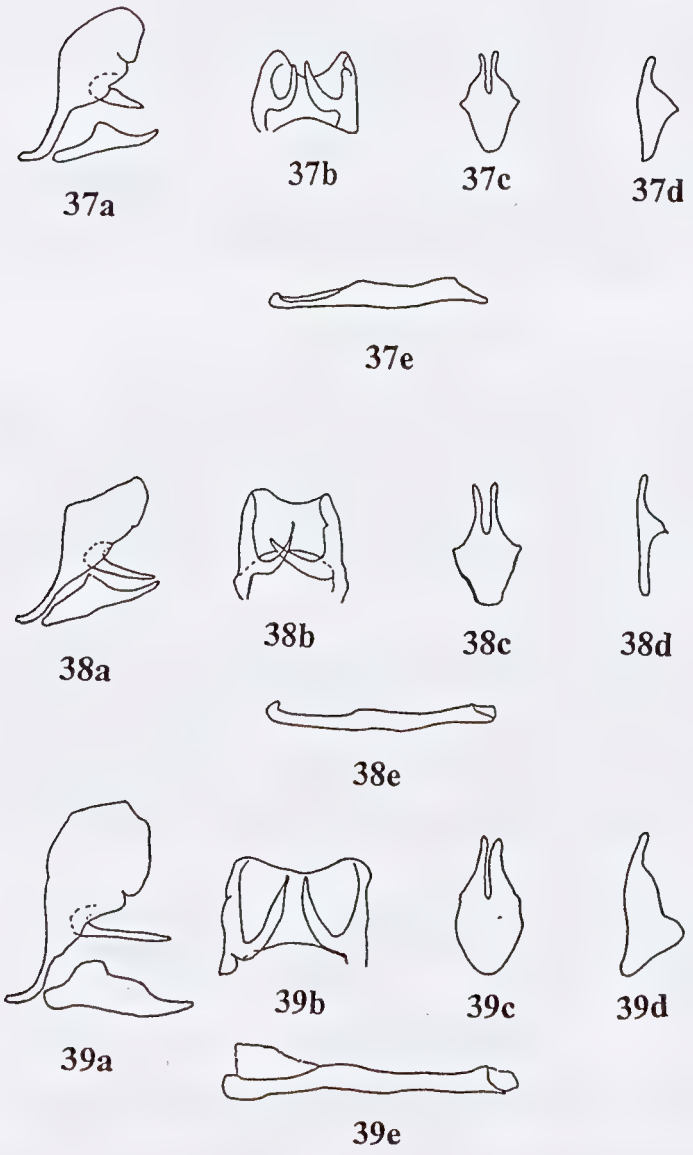
*Comments.* The female of this taxon is unknown; reference to features of both sexes by Parsons (1998) was presumably a typographical error. The taxon is named after Mike Parsons, whose contribution to the knowledge of the New Guinea butterfly fauna has been very significant.

### *Deudorix mulleri* sp. nov.

(Figs 10, 25, 38)

*Type. Holotype* ♂, PAPUA NEW GUINEA, Bismarck Archipelago, central New Ireland, Schleinitz mountains, 1260 m, 24.vii.1998, C.J. Muller (gen. prep. BMNH (V) 5139) (BMNH).

*Description.* Male forewing length 16 mm; similar to *D. tenebrosa* but darker; antenna with white patch below club ventrally; frons white (orange in *D. tenebrosa*); abdomen striped ventrally (unstriped in *D. tenebrosa*); upperside forewing with orange patch more extensive, hindwing with orange markings broadly broken by veins, concentrated on tornal section of wing (more extensive in apical section in *D. tenebrosa*), tornal lobe smaller; underside grey-brown (paler, less grey in *D. tenebrosa*), forewing with white




**Figs 37-39.** *Deudorix* male genitalia: a, genitalia, aedeagus removed (lateral view); b, uncus (posterior view); c, valvae (posterior view); d, right valva (lateral view); e, aedeagus (lateral view). (37) *D. parsonsi*; (38) *D. mulleri*; (39) *D. rathsi*.

lines finer, the discal pair separate from postmedian series, hindwing with pair of postmedian lines closer together, less displaced than in *D. tenebrosa*, tornal iridescent markings blue-green, extensive, subtornal spot large. Genitalia (fig. 38) like *D. tenebrosa* (fig. 36); valve apices longer, less squat; aedeagus longer, more slender. Female unknown.

*Distribution.* Papua New Guinea (New Ireland).

*Comments.* This distinctive butterfly is named after Chris Muller of Dural, New South Wales, who collected the unique holotype and whose efforts in the field under difficult conditions on New Ireland has resulted in many significant new discoveries.

### *Deudorix rathsi* sp. nov.

(Figs 13, 28, 39)

*Deudorix* species c; Parsons, 1998: 406, pl. XIV, pl. 62, figs 1710-1713.

*Types. Holotype* ♂, PAPUA NEW GUINEA, Dampier Island, ii.&iii.1914, [Meek's Expedition] (gen. prep. BMNH (V) 1016) (BMNH). *Paratypes*: 1 ♂, Vulcan Island, xi.1913-i.1914, [Meek's Expedition] (gen. prep. BMNH (V) 1115) (BMNH); 1 ♂, 6 km S[outh] E[ast] of Bulolo, Pinetops Bridge, Bulolo river gorge exit, 730 m, 22.xi.1973, Thomas W. Davies (California Academy of Sciences Collection, San Francisco, USA [CAS]); 1 ♀, Watit r[iver] gorge, 8 km W[est] of Bulolo, 600 m, 27.viii.1972, T.W. Davies (CAS).

*Description.* Male forewing length 18 mm; similar to *D. woodfordi* and *D. confusa*; upperside with markings pale orange (red in *D. woodfordi* and *D. confusa*); underside typical of the *epijarbas* species-group; pale brown (darker brown in *D woodfordi.*, grey-brown in *D. confusa*; the greenish-tinged colour of Parsons 1998, plate 62, fig. 1711 is misleading), white lines prominent. Genitalia typical of the group but distinctively large; dorsal indentation of tegumen shallow; valve long, irregular in shape; aedeagus long. Female upperside dark brown (Parsons 1998); underside as in male.

*Distribution.* Papua New Guinea.

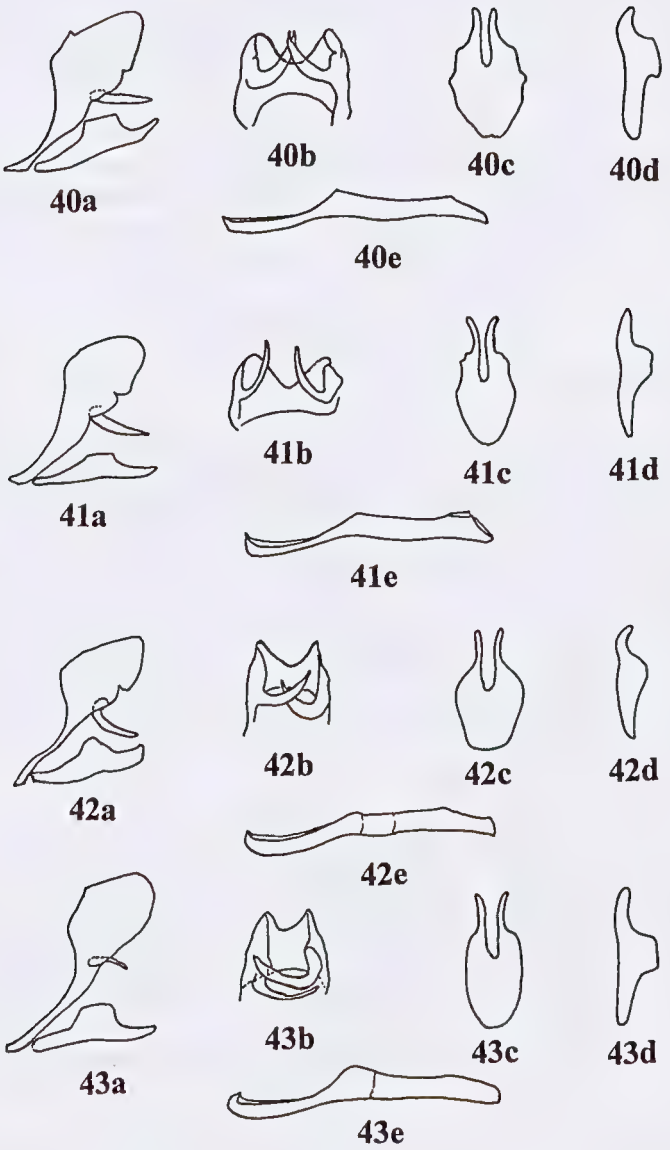
*Comments.* The male holotype and female paratype of this taxon were illustrated by Parsons (1998). The latter has not been examined by the present author.

### *Deudorix eagon* sp. nov.

(Figs 14, 29, 42)

*Type. Holotype* ♂, SOLOMON ISLANDS, Choiseul, northwest, 3-7 km north of Mole, 40-120 m, 17.iv.1997, W.J. Tennent (gen. prep. BMNH (V) 5141) (BMNH).

*Description.* Male forewing length 15 mm; resembles the male usually associated with the female holotype of *Deudorix (Virachola) affinis* Rothschild (see discussion); upperside with cobalt blue (bright silvery-blue in '*D. affinis*') less extensive on both fore and hindwings, tornal markings not possible to assess due to wing damage; underside grey-brown (brown in




**Figs 40-43.** *Deudorix* male genitalia: a, genitalia, aedeagus removed (lateral view); b, uncus (posterior view); c, valvae (posterior view); d, right valva (lateral view); e, aedeagus (lateral view). (40) *D. democles*; (41) '*D. affinis*'; (42) *D. eagon*; (43) *D. wabens*.

'*D. affinis*'); arrangement of fine lines like '*D. affinis*', hindwing with pale (off-white) patch reduced, underlying markings distinct (patch white, extensive, obscuring underlying markings in '*D. affinis*'). Genitalia (fig. 42) similar to '*D. affinis*' (fig. 41); valve median lobe smaller, less angular, dorsal indentation of tegumen more shallow. Female unknown.

*Distribution.* Solomon Islands (Choiseul).

*Comments.* This taxon is named in recognition of the staff of the Eagon Resources Development Company (S.I.), who were generous in providing hospitality and transport for the author on Choiseul island, without which several new taxa described in this paper would not have been discovered.

### *Deudorix wabens* sp. nov.

(Figs 15, 30, 43)

*Virachola democles affinis*; Parsons, 1998: 410, pl. 63, figs 1737, 1738 [misidentification].

*Types. Holotype* ♂, SOLOMON ISLANDS, Guadalcanal, [Mount] Gallego, vegetation around camp 2, 13.vii.1965, Royal Society Expedition (gen. prep. BMNH (V) 5142) (BMNH). *Paratype* ♂, Guadalcanal, Betikama river, 6.viii.-2.x.1960, W.W. Brandt (Australian National Insect Collection (ANIC), Canberra).

*Description.* Male forewing length 19.5 mm; superficially resembles '*D. affinis*' and *D. eagon* above but larger, the forewing longer and apex more angular; upperside markings dull steely-blue (shining silvery-blue in '*D. affinis*', cobalt blue in *D. eagon*); underside resembles *D. eagon*, the markings less regular, hindwing with pale patch more extensive. Genitalia (fig. 43) typical of *Deudorix*; median lobe of valve large, flattened (less broad in '*D. affinis*' [fig. 41], rounded in *D eagon* [fig. 42]); valve apices long. Female unknown.

*Distribution.* Solomon Islands (Guadalcanal).

*Comments.* The paratype male was illustrated by Parsons (1998) as *Virachola democles affinis*. The explanation for this arrangement relates to a cabinet drawer note in the ANIC, Canberra, made by the late G. E. Tite, who suggested that the specimen might be associated with the Australian taxon *D. democles* Miskin, which Tite knew only from the illustrations of Waterhouse and Lyell (1914). Although clearly related to *D. democles* (and other 'blue' *Deudorix* taxa), both the phenotype and the male genitalia (cf. fig. 40 [*D. democles*] and fig. 43 [*D. wabens*]) suggest that they are not conspecific.

## Discussion

Two *Deudorix* species, *D. woodfordi* and *D. viridens*, were described from the island of Guadalcanal by Druce (1891) but there appear to be no published reports of any other species from the Solomon Islands prior to Parsons (1998). There is a female in the collection of The Natural History

Museum, London (BMNH), taken by Meek in 1904 on Rendova (New Georgia Group), which represents a third taxon, almost certainly *D. diovis* Hewitson and a female taken on Alu (Shortland group) in November 1997 also corresponds closely to this taxon. No corresponding male '*D. diovis*' from the Solomon Islands has been seen. Parsons (1998) additionally reported *D. epijarbas concolor* Joicey & Talbot from the large island of Bougainville, politically part of Papua New Guinea but geographically and faunistically part of the Solomons Archipelago, and reported *D. wabens* (as *Virachola democles affinis*) from Guadalcanal.

The large, mountainous and poorly explored island of Choiseul, southeast of Bougainville, was visited in April 1997, at the start of a period of cyclonic conditions. In the calm following several days of heavy rain and high winds, lycaenid butterflies were attracted in unusually large numbers to the small white flowers of a *Mikania* species (Asteraceae) and a total of 24 *Deudorix* specimens (usually seen only singly or in small numbers in the Solomon Islands), of both sexes, were collected. This material comprised five species, of which three are described as new in this paper. Although the possibility of dispersal between islands as a result of the cyclonic conditions is not discounted, the number of species flying together (*D. woodfordi, D. viridens, D. confusa, D. brilligi, D. eagon*), together with a general lack of available material, suggests that adult *Deudorix* species may be primarily canopy dwellers, 'forced' lower on this occasion to feed at flowers after several days of inactivity. These butterflies are extremely fast fliers and the number of individuals collected on Choiseul represents only a percentage of those seen. It is not known whether the sample included all species present.

Of the two previously reported Solomon Islands species, *D. woodfordi*, regarded as a subspecies of *D. epijarbas* by some authors (e.g. Samson 1980), is known to be widespread and sympatric with *D. epijarbas* in the New Guinea region, including the Bismarck Archipelago and Bougainville. In comparison, the highly distinctive *D. viridens*, provisionally placed with *D. epijarbas* by Seitz (1926) and overlooked by D'Abrera (1971, 1978, 1990), has been largely ignored in the literature. Parsons (1998) briefly mentioned *D. viridens*, stating that it flew with *D. woodfordi* on Guadalcanal. It is not actually known whether the taxa are sympatric on that island, since *D. viridens* appears to have been collected there only sporadically since it was first described.

Druce (1891) described *D. viridens* from the male, which he stated was 'strongly dusted over both wings with light green scales' and it is clear from Druce's type material in the BMNH, and the few further specimens accumulated since that time, that it is a distinctive, but variable species. The male holotype is small, with a prominent blue-green sheen on the upper surface, a feature present to a lesser degree on several other males examined. Further males are large and completely lack this sheen, although the distinctive underside markings and genitalia of all specimens examined

including the holotype and a large male at the opposite end of the range of variation, also from Guadalcanal, appear identical. Aside from a series of 11 males and 9 females in the ANIC, the female of *D. viridens* is not present in any collection seen and is reported here for the first time. The ANIC series, taken on Guadalcanal by the late William Brandt, is remarkable in terms of both the number of specimens and the pristine condition of all individuals, suggesting they may have been reared from the early stages, although there is no record of such an event in Brandt's notes (Ted Edwards, pers. comm.). It is interesting that none of the 11 males in this series has Druce's green sheen and it is possible that further study may reveal the presence of more than one taxon under what is presently considered to be *D. viridens*.

As already noted under *D. wabens*, Parsons (1998) placed *Deudorix affinis* Rothschild, stat. rev. as a subspecies of *D. democles* Miskin from Australia and incorrectly associated and illustrated a male from Guadalcanal as *Virachola democles affinis*. The status of *D. affinis* itself is open to question and it is by no means certain that a male historically associated with the female holotype belongs to that taxon. The holotype, illustrated by D'Abrera (1990) and Parsons (1998), was taken on Dampier (Karkar) island, north of Madang (Papua New Guinea) in 1914 by Meek (Rothschild 1915). A male, illustrated by D'Abrera (1990) as *D. affinis*, was taken on Sudest (Tagula) island, the largest of the Louisiades, in 1916 by the Eichhorn brothers. The two localites are more than 1200 km apart and it is possible, even probable, that these specimens are not conspecific. Including two new taxa described above, males of three different 'blue' *Deudorix* are known, from Papua New Guinea, Choiseul and Guadalcanal. No female is known from any of these localities and it is uncertain whether any of these males may be associated with the female holotype of *D. affinis*. Based on underside coloration and markings, the Sudest male is the most similar, but only examination of a male from Dampier, or a female from Sudest, will provide a definitive answer. Comparison of female *D. democles* with the holotype of *D. affinis*, and of the genitalia of male *D. democles* (fig. 40) with the Sudest '*D. affinis*' (fig. 41), suggests a close relationship, but not conspecificity, in each case. The Guadalcanal male illustrated by Parsons (1998) [*D. wabens*] is the least likely of the possible contenders for the true male of *D. affinis*.

As the foregoing illustrates, the New Guinea sub-region *Deudorix* species are a very complex group of butterflies which are not well understood and this may account for the significant differences seen in taxonomic judgement and interpretation. The group is very much in need of extensive revision.

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